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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/766,816

01/30/2004

Nobumasa Suzuki

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10/19/2006

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EXAMINER

LUND, JEFFRIE ROBERT

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

10/766,816

### Applicant(s)

SUZUKI, NOBUMASA

### Examiner

Jeffrie R. Lund

### Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-3, and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The term "the plasma processing region" is not defined or taught in the specification. The Examiner believes that the term "plasma processing region" refers to "the plasma generating region". If this is correct, then the drawings and specification do not teach that the "plasma generating region is located in a path of the flow of the gas introduced via the gas introducing part". The drawings show that the plasma generating region P is above the exhaust means 106 with arrows indicating flow counter to the arrow indicating the flow of gas from the gas introducing part, and therefore not "located in the path of the flow of the gas introduced via the gas introducing part".

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-3 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention.

Claim 1 recites the limitation "the plasma processing region" in line 12. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Karner et al, US Patent 5,616,373.

Karner et al teaches a plasma processing chamber that includes: a process chamber 1 that accommodates an object 4 to be processed and generates plasma; a gas introducing part 7 for introducing gas into the process chamber; a mechanism 3a that arranges the object in the flow of the gas such that the object is (i) closer to the gas introducing part 7 than to a plasma generating region 23c and (ii) between the gas introducing part 7 and the plasma generating region 23c in the flow of the gas; and an exhaust mechanism 72, which is arranged closer to the plasma generating region 23c than to the object 4, for exhausting the gas; and a conductance adjuster 24 having a plurality of holes 21c. (Figure 6) The specific plasma treatment is an intended use of the apparatus. Karner et al is capable of performing a plasma oxidation or nitridation. The exhaust means of Karner et al is located closer to the object than is the plasma generating region of Karner et al. This is the same layout shown in the figures of the

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current invention. Therefore, if the plasma generating region of the present invention is in the path of the flow of the gas introduced via the gas introducing part as claimed in newly amended claim 1, then the plasma generating region of Karner et al is in the path of the flow of the gas introduced via the gas introducing part.

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 11/295,667 ('667) in view of Karner et al, US Patent 5,616,373.

'667 teaches: a process chamber; a gas introduction part arranged closer to the object than a plasma generating region; an exhaust mechanism arranged closer to the plasma region (claim 1); a conductance adjuster with holes (claims 2 and 3); the

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exhaust mechanism located on the side of the plasma region partitioned by the conductance adjuster (claim 4); and a first and second gas inlet (claim 5).

'667 differs from the present invention in that it does not teach that the object is between the gas introducing part and the plasma generating region in the flow of the gas.

Karner et al was discussed above and includes an object 4 located between the gas introducing part 15 and a plasma generating region 23c in the flow of the gas.

The motivation for placing the object in the flow of the processing gas is to expose the surface of the object to the process gases to process the object.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the object of '667 in the flow of the gas as taught by Karner et al.

This is a provisional obviousness-type double patenting rejection.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-3, and 6 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments filed August 7, 2006 have been fully considered but they are not persuasive.

In regard to the argument that in "the apparatus shown in Fig. 6 in Karner, the gas introduced from the inlet arrangement 7 flows around the substrates 4 and is exhausted from the draw-off connections 72 without passing through the plasma generating area 23c", the Examiner agrees. However, as noted above, the Examiner

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believes that the gas flow from the gas introducing part 105 of the present invention also does not pass through the plasma generating area P, because like Karner et al, the exhaust means 106 is located between the plasma generating area and the gas introducing part, and the gas introduced from the inlet arrangement 105 flows around the substrates 102 and is exhausted from the draw-off connections 106 without passing through the plasma generating area P (see the figures).

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

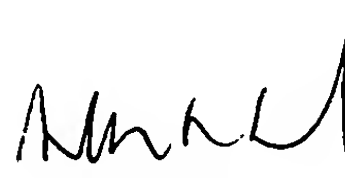
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (6:30 am-6:00pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrie R. Lund  
Primary Examiner  
Art Unit 1763

JRL  
10/16/06